

# SolarPack SP-A

## Solar Batteries 12 V, 65-200 Ah (C20)



- sealed
- maintenance-free
- deep cycle
- valve-regulated
- lead acid

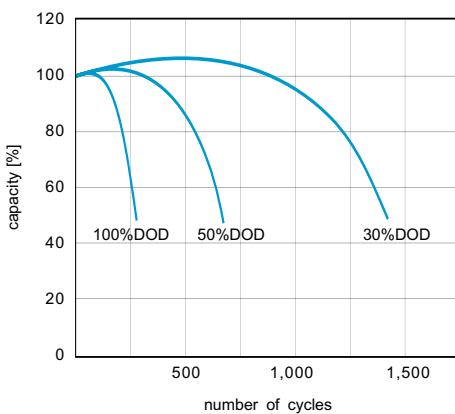
### Applications

- solar home systems (SHS)
- solar village lightning
- inverters
- UPS
- emergency lightning
- telecom relays stations

### Features

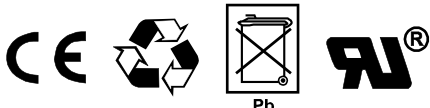
- excellent discharge/recharge behaviour
- rugged and vibration-resistant
- high life expectancy
- easy installation

### Cycle Service Life in Relation to Depth of Discharge

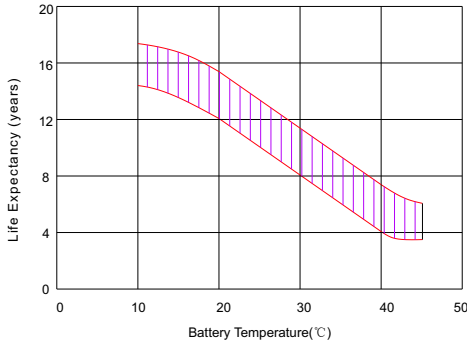


### Specification

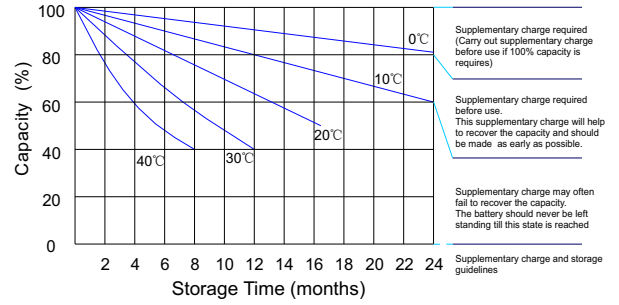
Modell	SP-A65	SP-A75	SP-A100	SP-A120	SP-A150	SP-A200
article #	16015	16016	16018	16020	16022	16024
nominal voltage	12 V	12 V	12 V	12 V	12 V	12 V
nominal capacity (20 hrs)	65 Ah	75 Ah	100 Ah	120 Ah	150 Ah	200 Ah
max. discharge current (5 sec)	520 A	600 A	800 A	960 A	1,200 A	1,600 A
max. short duration discharge current (0.1 sec)	1,300 A	1,500 A	2,000 A	2,400 A	3,000 A	4,000 A
standard terminals	FP28 Rt19	FP16 FP17 FP24 RT07	FP29 RT22	FP05 Rt20	FP20 RT19	FP08
container material	ABS	ABS	ABS	ABS	ABS	ABS
internal resistance (25°C)	7 mΩ	7.5 mΩ	6.5 mΩ	5 mΩ	4.5 mΩ	4.5 mΩ
charging voltage (25°C) standby use	2.275 V ±0.025 V/cell	2.275 V ±0.025 V/cell	2.275 V ±0.025 V/cell	2.275 V ±0.025 V/cell	2.275 V ±0.025 V/cell	2.275 V ±0.025 V/cell
charging voltage (25°C) cycle use	2.45 V ±0.05 V/cell	2.45 V ±0.05 V/cell	2.45 V ±0.05 V/cell	2.45 V ±0.05 V/cell	2.45 V ±0.05 V/cell	2.45 V ±0.05 V/cell
max. charging current	19.5 A	22.5 A	30 A	36 A	45 A	60 A
capacity (25°C)						
20 hrs	65 Ah	75 Ah	100 Ah	120 Ah	150 Ah	200 Ah
10 hrs	58.5 Ah	67.5 Ah	90 Ah	108 Ah	135 Ah	160 Ah
5 hrs	52 Ah	60 Ah	80 Ah	96 Ah	120 Ah	150 Ah
1 hr	39 Ah	45 Ah	60 Ah	72 Ah	90 Ah	120 Ah
1 C	32.5 Ah	37.5 Ah	50 Ah	60 Ah	75 Ah	100 Ah
weight	23.7kg	26.5 kg	32.9 kg	38.4 kg	47.1 kg	66.0 kg
total height	174 mm	227 mm	218 mm	235 mm	241 mm	245 mm
container height	174 mm	208 mm	214 mm	210 mm	241 mm	218 mm
length	350 mm	259 mm	329 mm	407 mm	483 mm	518 mm
width	166 mm	168 mm	174 mm	173 mm	170 mm	240 mm



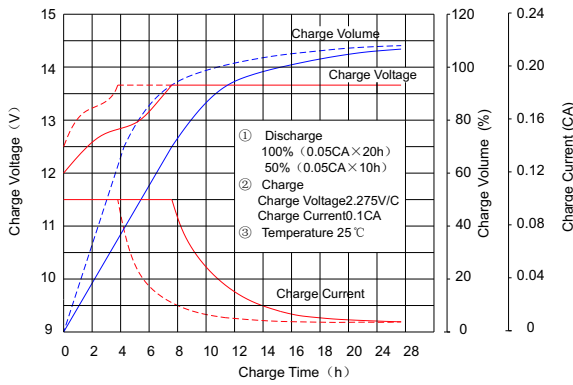
### Life characteristics of cyclic use



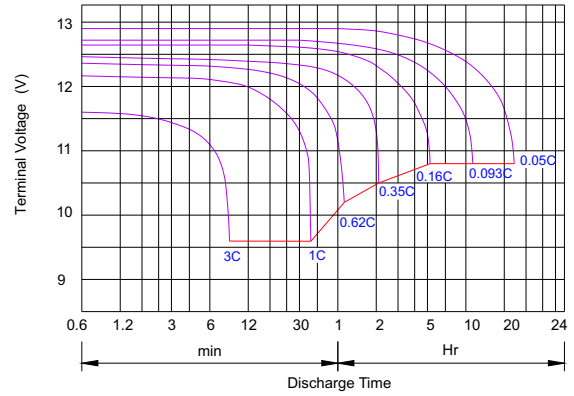
### Storage characteristic



### Charge characteristic Curve for standby use



### Discharge characteristic Curve



### Capacity Factors With Different Temperature

Battery Type		-20°C	-10°C	0°C	50°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM Battery	6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

### Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1.75V	1.70V	1.60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2Cx2h+2.4-2.45V/cellx24h, Max. Current 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

### Maintenance & Cautions

Cycle service

※ Avoid battery over discharge, especially battery series connection use.

※ Charged with recommend voltage, ensure battery can be full recharged.

In general, recharge capacity should be 1.1-1.15 times discharge capacity.

※ Effect of temperature on cycle charge voltage: -4mV/°C/Cell.

※ There are a number of factors that will affect the length of cyclic service.

The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged.

Generally speaking, the most important factors is depth of discharge.

## ETC Power from Germany

Kabul, Afghanistan, T +93-75-201 0444, www.etc-power.de

Errors excepted and possible alterations without prior notice. Depth of Discharge